SAFE HARBOR AGREEMENT

1.0 INTRODUCTION

This Safe Harbor Agreement (Agreement) is entered into between Robert K. Long et al. (Cooperator) and the U.S. Department of the Interior, Fish and Wildlife Service (Service); hereinafter collectively called the "Parties". The purpose of this Agreement is to enhance a subpopulation of the Houston Toad through the implementation of specific habitat enhancement activities on property owned by the Cooperator. This Agreement follows the Service's Safe Harbor Agreement policy (64 FR 32717) and regulations (64 FR 32706), both of which implement section 10(a)(1)(A) of the Endangered Species Act (ESA).

Cooperator: Robert K. Long et al.
P.O. Box C
Bastrop, TX 78602
(512) 303-0810

Service: Mr. Robert Pine
Supervisor, Austin Ecological Services Office
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, TX 78758
(512) 490-0057

Agreement/Tracking Number: TE-074530-0

This Agreement covers the following Federally listed species, which is hereafter referred to as the "covered species":

Houston toad (*Bufo houstonensis*)

This Agreement covers the following property: The property covered by the Agreement and its associated Permit is the entirety of an approximately 540-acre parcel (Ranch) located in Bastrop County, Texas. The location of the Ranch is shown on Attachment A and the covered portion of the Ranch is shown on Attachment B. This portion of the Ranch is considered the "enrolled property" as defined in the Service's final Safe Harbor Policy.

Agreement Duration: The Agreement becomes effective upon issuance by the Service of the Section 10(a)(1)(A) enhancement of survival permit described in Part 5 hereof, and will be in effect for 10 years. The permit will have a term of 12 years.

2.0 AUTHORITY AND PURPOSE

Sections 2, 7, and 10 of the Endangered Species Act (Act) of 1973, as amended, allow the Service to enter into this Agreement. Section 2 of the Act states that encouraging interested parties, through financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the Act requires the Service to review programs that it administers and to utilize such programs in furtherance of the purposes of the Act. By entering into this Agreement, the Service is utilizing its Endangered Species and related programs to further the conservation of the Nation's fish and wildlife resources.

Section 10(a)(1) of the Act authorizes the Service's issuance of enhancement of survival permits for listed species. This Agreement is entered into pursuant to the Service's Safe Harbor Agreement final policy (64 Federal Register 32717) and final regulations (64 Federal Register 32706), and implements the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the Act. Section 10(d) of the Act provides that the Service may grant permits authorizing "take" of endangered species under Section 10(a)(1)(A) only if it finds that "(1) [they] were applied for in good faith, (2) if granted and exercised will not operate to the disadvantage of such endangered species, and (3) will be consistent with the purposes and policy set forth in section 2 of this Act." This Agreement helps satisfy these requirements. The Permit has been applied for in good faith. If granted, it will operate to the advantage of the Houston toad by increasing and improving the breeding and foraging habitat available to it and providing insurance against the loss of this species as a result of natural disasters or other catastrophes on public land in the area. The Agreement and Permit are expected to be consistent with the purposes and policies of the Act, because they will further Houston toad conservation in ways consistent with the Recovery Plan (1984) and Population and Habitat Viability Assessment (1994) for the species.

The purpose of this Agreement is for the Cooperator to implement conservation measures for the Houston toad by creating and enhancing shallow ponds to facilitate the Houston toad's reproductive success, to improve the quality of foraging and other habitat areas, and to establish corridors to enhance the movement of Houston toads between foraging and breeding areas. The Cooperator will receive an enhancement of survival permit (Permit) that authorizes implementation of the conservation actions and other provisions of this Agreement and authorizes incidental take of Houston toads that are above the Cooperator's baseline responsibilities, as defined in this Agreement.

3.0 BACKGROUND

3.1 Description of the Ranch

The Ranch lies within an approximately 126,000-acre area of "Potential" Houston toad habitat delineated by the Service in a map dated April 2000. The Ranch is adjacent to Bastrop State Park, which has a known population of Houston toads. In early 2002, Dr. Michael Forstner of Southwest Texas State University and his students established listening stations on the Ranch so as to cover the entirety of the Ranch's potential breeding ponds. Surveys conducted by Dr. Forstner and his students during the 2002 breeding season detected calling by a limited number of Houston toads from the large

ephemeral wetland in the center of the Ranch[1]. Houston toads were not detected at any other location on the Ranch. In addition to raising cattle, the Cooperator and his family also use the Ranch for recreational purposes, including hiking, bird watching, and hunting. A small residence and several barns and corrals are also located on the Ranch. The Ranch is partially wooded and contains ephemeral ponds and wetlands, water tanks for cattle, and several wooded areas with deep sandy soils. Alum Creek, a major tributary of the Colorado River, runs through the Ranch and exits into the adjacent Bastrop State Park (see Attachment D). Attachment C is a map of the Ranch's soil and vegetative characteristics.

3.2 Description of Covered Species[2,3]

The Houston toad (*Bufo houstonensis*) is a small member of the *Bufo americanus* species group. It is endemic to southcentral Texas and occurs as relic populations on deep sandy soils in Post-Oak Savannah vegetation community. Plants that are often found in Houston toad habitat are loblolly pine (*Pinus taeda*), post oak (*Quercus margaretta*), bluejack or sandjack oak (*Q. incana*), yaupon (*Ilex vomitoria*), and little bluestem (*Schizachyrium scoparium*). The U.S. Fish and Wildlife Service listed the Houston toad as an endangered species in 1970. This species is currently known to exist in nine Texas counties. The Service believes the Houston toad has been extirpated from its former range east of the Trinity River, in Harris, Liberty, and Fort Bend counties, Texas.

Houston toad sightings have occurred in two separate bands of geologic formations with the deepest sands in the region. The population in Bastrop County is the most robust known by the Service. Public lands within the county that contain Houston toad habitat and where Houston toads have been documented within one mile of the property include Bastrop and Buescher State Parks and the Lower Colorado River Authority's property around Lake Bastrop (total about 6,000 acres).

During the breeding season (January through June), Houston toads mate in shallow ponds and exhibit promiscuous mating behavior. Many toads do not appear to be faithful to specific breeding sites, but rather move from one site to another. For breeding, Houston toads require still or slow-flowing bodies of water that persist for 30 to 60 days. During the breeding season, males call a high trill that lasts an average of 14 seconds. Most breeding activity takes place in February and March and is stimulated by warm evenings and high humidity. The toads emerge from hibernation to breed only under suitable moisture and temperature conditions. Little is known about the toad's activities during the non-breeding season, except that they aestivate/hibernate in sandy soils during some portion of this season. Adults prefer wooded areas with patches of native bunchgrasses such as Indian grass (*Sorghastrum nutans*) and little bluestem.

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[1] Forstner, M.R.J. 2002. Final Report of the Long Property, Bastrop County, TX, Houston Toad Survey 2002. A report submitted to Bob Long and Environmental Defense. 8pp.
[2] Forstner, M.R.J. 2003. Final: Biology/Ecology of the Houston Toad (*Bufo houstonenesis*). A report submitted to Bastrop County, Texas. 26pp.
[3] U.S. Fish and Wildlife Service. 1984. Houston toad recovery plan. Albuquerque, New Mexico. 73 pp.

The upper part of the Houston toad is usually light brown, though occasionally it is reddish or purplish gray. The toad has a variable number of dark brown or black spots. Its underbelly is cream-colored and mottled. Females are 52 to 80 mm long (2 to 3.2 inches)(snout to vent); males are smaller, 45 to 70 mm long (1.8 to 2.8 inches). Tadpoles feed primarily on pollen (usually from pine trees), the jelly envelopes of other recently hatched Houston toads, and algae on floating leaves. Adults feed on insects and other invertebrates.

Houston toads are primarily diurnal during most of the year. During the breeding season, they are active most hours of the day and night, with concentrated activity in the evening. The chief predators of adults are hognose snakes, herons, egrets, raccoons, skunks, and coyotes. Fire ants have been known to attack and consume young toads. Amphibians in general are known to be sensitive to many pollutants, such as heavy metals, certain insecticides, nitrites, salts, certain organophosphates, and petroleum hydrocarbons.

3.3 Description of Baseline Conditions

The parties agree that the baseline conditions applicable to this Agreement are as follows: (1) current Ranch management practices, and (2) current vegetation and habitat conditions. These baseline conditions shall be considered current as of January 1, 2002. The parties acknowledge and recognize that no degradation of Houston toad habitat has occurred on the Ranch since this date.

Ranch Management Practices

The Ranch is currently grazed with cattle on a continuous basis. Approximately 30 to 40 cows and 1 to 2 bulls are grazed on the Ranch with the cows and bull(s) having unlimited access to woodlands, ponds, and other water sources. While the Cooperator intends to continue cattle ranching for the foreseeable future, this Agreement does not preclude the opportunity to remove cattle at some future point in time and completely convert to a wildlife management program.

Clearing and thinning of invasive eastern red cedar (*Juniperus virginiana*), yaupon, and other understory brush have occurred in various parts of the Ranch at various times. The purpose of this activity has been primarily to restore a more open understory that supports grasses and forbs, but also to accommodate the possible future construction of a homesite in the northwestern portion of the Ranch.

The current fence configuration is limited to the property boundary.

Hunting of white-tailed deer and ducks occurs on the Ranch on a seasonal basis.
One small residence and several barns and corrals are located on the Ranch as shown on Attachment E. In addition, the Cooperator has tentative plans to construct an additional residence outside of the designated management areas. The area under consideration is in the northwest corner of the property, immediately east of the access road to the Ranch. This area is a post oak – blackjack oak – loblolly pine woodland. Under baseline conditions, it is unlikely that Houston toads occupy any potential construction sites for

the home in this area. Therefore, current knowledge indicates that this construction would not impact Houston toads.

Current Vegetation and Habitat Conditions

As shown on Attachment B, 540 acres of the Ranch are included within the enrolled property designation. Within the enrolled property, five areas have been delineated for the purpose of focusing management activities designed to enhance habitat conditions for, and survivability of, Houston toads.

These five areas (Houston Toad Management Areas or HTMAs) have been delineated on the Ranch based on:

- Vegetation and soil characteristics,
- Ponds that will be created or enhanced to support toad reproductive success, and
- Connecting corridors to enhance toad movement between foraging and breeding areas.

HTMA1 encompasses 12 acres, HTMA2 encompasses 57 acres, HTMA3 encompasses 23 acres, HTMA4 encompasses 22 acres, and HTMA5 encompasses 58 acres. Locations of the HTMAs are shown on Attachment D.

Vegetation within each of the areas was characterized based on the collection of relevé samples[4]. In this method the surveyor visually assesses the species composition and cover within circular plots located so as to capture the extent of variation within each vegetation community, as well as the transition between community types. The number of plots used to adequately characterize a particular vegetation type is dependent on the plant diversity and the degree of heterogeneity within each type. Plot sizes range from six meters in diameter for forests to one meter for grasslands. Plot locations are shown on Attachment C.

The following is a description of the Houston Toad Management Areas.

A. *Area HTMA1 Baseline Conditions.*

This area encompasses 12 acres and includes one relatively deep, steeply sloped pond (0.4 acres in spatial extent); an 8-acre wetland (occasionally inundated) surrounding the pond; and a transitional woodland surrounding the wetland. The pond is used by cattle as a water source and is accessible by cattle at all times. Water is normally always present in

[4] Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley and Sons, New York, New York, USA.

the pond although the depth varies considerably from year-to-year and season-to-season. It is not known what fish species, if any, inhabit the pond. Data on water depth and fish diversity will be collected and presented in the annual report.

	*A view of the pond in HTMA1. Photo taken at UTM coordinates 0673760E and 3335916N, looking northeast.* *Note: all coordinates are in NAD27 and UTM 14.*
	*Area immediately adjacent to pond. Photo taken at UTM coordinates 0673813E and 3335972N, looking south.*
	*Transition zone between wetland and forest areas in HTMA1. Photo taken at UTM coordinates 0673797E and 3335749N, looking north.*

The vegetation in HTMA1 is composed of two community types, a herbaceous wetland and a transitional woodland. The 8-acre wetland area is a herbaceous community dominated by a species of rush (*Juncus* sp.) which accounts for 75 percent of the cover. Additional common species include a dewberry (*Rubus* sp.), and an unknown species in the Asteraceae family. Scattered individuals of flameleaf sumac (*Rhus lanceolata*) are also present in this area.

The transitional woodland that is included in HTMA1 covers approximately 7.5 acres. This woodland encircles the wetland area and occurs at a slightly higher elevation. The

canopy is relatively open and is composed of American elm (*Ulmus americana*) (20 percent cover) and water oak (*Q. nigra*) (5 percent cover). The shrub layer is sparse and dominated by dewberry (25 percent cover), yaupon (occasional), eastern red cedar (occasional), Roosevelt weed (*Baccharis* sp., occasional), and a greenbrier (*Smilax* sp., occasional).

B. *Area HTMA2 Baseline Conditions.*

This 57-acre area contains an existing pond (0.5 acres in spatial extent) that appears to have potential for toad breeding. The existing banks are relatively shallow and woodlands are present in a nearly continuous ring around the pond. The pond is used by cattle as a water source and is accessible at all times. Water is normally always present in the pond although the depth varies considerably from year-to-year and season-to-season. It is not known what fish species, if any, inhabit the pond. Data on water depth and fish diversity will be collected and presented in the annual report.

A view of the pond in HTMA2. Photo taken at UTM coordinates 0673029E and 3334626N, looking west.

The vast majority of HTMA2 can be characterized as a post oak – blackjack oak – eastern red cedar woodland. Canopy cover ranges from 30 percent to 90 percent as a result of thinning of eastern red cedar in some areas. Canopy dominants are post oak with cover ranging between 15 percent to 45 percent, Loblolly pine – up to 30 percent, blackjack oak – 10 percent, and eastern red cedar – 5 percent to 10 percent. The shrub layer is primarily composed of yaupon (20 percent), eastern red cedar (5 percent to 10 percent), and slash from thinning.

C. *Area HTMA3 Baseline Conditions.*

The large ephemeral wetland in the central portion of the property is believed to have excellent potential as a Toad breeding pond. The extent and persistence of ponded water varies considerably depending on seasonal and yearly weather conditions. Information on water depth and fish species will be collected and included with the annual report. In order to facilitate management activities, this wetland has been divided into two management areas. The eastern area, which is identified as HTMA3, is a 23-acre area that includes an extensive wetland-woodland interface. This interface is believed to be important to the facilitation of Toad movement between breeding and foraging areas.

Grassland interface between ephemeral wetland and woodland in northern portion of HTMA3. Photo taken at UTM coordinates 0673483E and 3335147N looking east to southeast(from left to right).

	*Lowland forest adjacent to western edge of ephemeral wetland in HTMA3. Photo taken at UTM coordinates 673601E and 3335096N, looking north.*
	*Post oak dominated woodland immediately upslope of lowland forest in HTMA3. Photo taken at UTM coordinates 673472E and 3334944N, looking southwest.*

	*A loblolly pine woodland dominates at the highest elevations in HTMA3. Photo taken at UTM coordinates 673642E and 3334934N, looking northwest.*

The vegetation in HTMA3 can be divided into five community types (herbaceous wetland, a grassland, a lowland forest, a deciduous dominated woodland, and an evergreen dominated woodland). The ephemeral wetland area is dominated by a combination of spikesedges (*Eleocharis* spp.) and rushes (*Juncus* spp.). Individual species will be identified when flowering and fruiting specimens become available.

Immediately north of the wetland in HTMA3, a grassland community predominates. This grassland is dominated by common bermudagrass (*Cynodon dactylon*) (80 percent cover) with a variety of forbs also present.

A lowland forest is present in a band that borders a swale to the immediate east of the ephemeral wetland area. This closed canopy forest is dominated by water oak (30 percent cover), loblolly pine (30 percent cover), American elm (10 percent cover), and eastern red cedar (10 percent cover). The understory is relatively open with yaupon accounting for approximately 10 percent cover.

To the immediate east of the lowland forest, and at a slightly higher elevation, is a deciduous woodland that can be characterized as a post oak – blackjack oak – eastern red cedar woodland. This woodland is relatively open with the following cover values: post oak (25 percent), eastern red cedar (15 percent), and blackjack oak (10 percent). The shrub layer is also relatively open with yaupon (10 percent cover) and beautyberry (*Callicarpa americana*) (5 percent cover).

An evergreen woodland dominated by loblolly pine is present at the highest elevations in the southeast corner of HTMA3. The canopy is composed of loblolly pine (50 percent cover), post oak (20 percent cover), and blackjack oak (15 percent cover). Eastern red cedar dominates the shrub layer (30 percent cover) with yaupon also present (10 percent cover).

D. *Area HTMA4 Baseline Conditions.*

HTMA4 covers 22 acres and includes the western portion of the large, central, ephemeral wetland.

	*Grassland interface between ephemeral wetland and woodland in northern portion of HTMA4. Photo taken at UTM coordinates 0672962E and 3335343N, looking north.*
	*Looking north across ephemeral wetland in HTMA4. Photo taken at UTM Coordinates 673045E and 3335028N.*

The ephemeral wetland in HTMA4 is bordered on the north, west, and south by common bermudagrass dominated grasslands. Vegetation in both the wetland and the grassland is identical to that which is found in HTMA3.

Narrow patches of woodland are also present along a swale in the north-central portion of this zone. The canopy in these riparian patches varies substantially in composition and dominance. Pecan (*Carya illinoensis*), water oak and American elm are generally the canopy dominants, with eastern red cedar, sugarberry (*Celtis laevigata*), and cedar (or winged?) elm (*U. crassifolia*) or (*U. alata*) also present.

A dirt road, which provides access to the Ranch, skirts the western boundary of HTMA4.

E. *Area HTMA5 Baseline Conditions*

Area HTMA5 covers 58 acres and includes the western "peninsula" of the Ranch.

	*Alum Creek runs through the eastern portion of HTMA5. Photo taken at UTM coordinates 672565E and 3335441N, looking southwest.*
	*Patches of lowland forest are present in the vicinity of Alum Creek. American elm dominates this particular patch. Photo taken at UTM coordinates 672727E and 3335591N, looking east.*
	*Post oaks are the dominant trees in HTMA5. Photo taken at UTM coordinates 672305E and 3335437N, looking northeast.*

	*Loblolly pine is found in relatively low abundance at the highest elevations in HTMA5. A mature individual pine tree can be seen in the center background of this picture. Photo taken at UTM coordinates 672245E and 3335779N, looking west.*
	*Looking west from UTM coordinates 672404E and 3335392N along property fenceline. Long property to right includes excellent woodland cover while property to left has little woodland cover.*

Area HTMA5 is composed of three primary vegetation types, a floodplain forest adjacent to the banks of Alum Creek, a lowland forest to the immediate west of the floodplain, and an upland post oak – blackjack oak – eastern red cedar woodland.

The canopy of the floodplain forest reaches 65 ft. and is dominated by water oak (60 percent cover with a wide range of age classes present), American elm (25 percent cover), and eastern red cedar (10 percent cover). Occasional large individuals of loblolly pine are also present. The shrub layer is moderately dense and is composed of yaupon (50 percent cover), water oak (20 percent cover), and beautyberry (10 percent cover).

A relatively narrow band of lowland forest with a canopy dominated by American elm (70 percent cover) occurs to the west of the floodplain. The shrub layer is dense and includes yaupon (50 percent cover), possumhaw (*Ilex decidua*) (25 percent cover) and eastern red cedar (10 percent cover).

The vast majority of HTMA5 can be characterized as a post oak – blackjack oak – eastern red cedar woodland. The average cover values for the canopy dominants are post oak –(40 percent), blackjack oak (15 percent), and eastern red cedar (25 percent). A few mature individual loblolly pine trees are present at the highest elevations. The shrub cover is composed of yaupon (20 percent), eastern red cedar (10 percent), beautyberry (10 percent), and lesser amounts of dewberry, and farkleberry (*Vaccinium arboreum*).

4.0 AGREEMENT IMPLEMENTATION

4.1 Conservation Measures/Net Conservation Benefit.

The Cooperator intends to work collaboratively with Environmental Defense, Texas Parks and Wildlife Department, Texas Department of Agriculture, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Texas Forest Service, and Aqua Water Supply Corporation in order to implement conservation measures to improve the quality of Houston Toad habitat within the Houston Toad Management Areas on the Ranch.

General: The Cooperator agrees to adopt a rotational grazing program for cattle through two primary activities: (1) fencing and (2) installation of alternative water sources for use by cattle during the toad breeding season. The primary goal is to enhance habitat conditions for the Houston Toad, while at the same time increasing the native vegetation and wildlife diversity on the Ranch.

Specific conservation measures include:

- Fencing an existing pond and an ephemeral wetland so as to exclude cattle during the breeding season,
- Installing fencing in a manner that protects important habitat areas and facilitates herd rotation,
- Creation of a shallow ephemeral pond designed to facilitate and enhance toad breeding success,
- Installing alternative water sources for the cattle,
- Thinning of understory vegetation in woodlands and forests,
- Linking ponds and woodlands through strategic location of brush piles and (where feasible) establishment of woodland corridors,
- Developing and implementing a prescribed fire plan for the entire Ranch in cooperation with Texas Forest Service and the Service.
- Planting and protecting native bunchgrasses, and
- Treating imported red fire ant mounds (fire ant).

The specific conservation measures that the Cooperator has agreed to in each Toad Management Area are the following:

A. Area HTMA1. This 12-acre area will be fenced to exclude cattle from the pond and the surrounding wetland during the breeding season (January through June). Native bunchgrasses will be planted on the banks surrounding the pond. Cattle will be excluded from the bunchgrass restoration area continuously until such time as the grasses are established. After the grasses are established, cattle will be allowed access for short duration “flash grazing” during the period from July through December. An alternative water source for cattle will be installed to offset the loss of the pond for this purpose. This alternative water source will be located in the northwest corner of the property near the existing Aqua water line and approximately

800 meters west of the pond in HTMA1. Fire ant mounds will be treated once in the summer (with one follow-up application) and (if needed) once in the fall (with one follow-up application). Brush piles will be strategically located on, and perpendicular to, the pond edges so as to create cover for emerging juveniles. In addition, an assessment will be made as to the benefit of creating woodland or forest cover (either actively or passively) in order to connect the pond with adjacent woodlands and forests. This assessment will compare and contrast the potential benefits of creating a corridor (or corridors), as well as continuous cover using prescribed fire to maintain the open aspect of the sedge meadow. The assessment will be made after the 2004 breeding season and will include such factors as yearly and seasonal variations in water levels (and the associated impact on toad breeding activity) and preferred movement routes for toads.

B. Area HTMA2. This 57-acre area will serve as a control for comparison of a fenced pond (HTMA1) to an open access pond (HTMA2). Enhancements in HTMA2 will be limited to fire ant control.

C. Area HTMA3. This 23-acre area will be fenced to exclude cattle from the ephemeral wetland area during the breeding season. Native bunchgrasses will be reestablished in the grassland area to the immediate north of the ephemeral wetland. Cattle will be excluded from the restoration area until such time as the grasses are established. After the grasses are established, cattle will be allowed access for short duration "flash grazing" during the period from July through December. An alternative water source for cattle will be installed to offset the loss of the pond for this purpose. To better understand the effects on the Houston toad, an experimental design for thinning of understory vegetation will be developed and implemented in this area. Fire ant mounds will be treated once in the spring (with one follow-up application) and once in the fall (with one follow-up application). A prescribed burn plan will be written and implemented for this area in cooperation with Texas Forest Service and the Service. The Service will be allowed to review and comment on the experimental design and the prescribed burn plan prior to their implementation.

D. Area HTMA4. This 22-acre area will be fenced to exclude cattle during the breeding season (January through June). An alternative water source for cattle will be installed to offset the loss of the pond for this purpose. Fire ant mounds will be treated once in the spring (with one follow-up application) and once in the fall (with one follow-up application). Linkages will be created between this area and HTMA5 through placement of brush piles and planting of shrubs and trees, with the overall goal being to create a corridor for toad movement. A prescribed burn plan will be written and implemented for this area in cooperation with Texas Forest Service and the Service. The Service will be allowed to review and comment on the experimental design and the prescribed burn plan prior to their implementation.

E. Area HTMA5. This 58-acre area will be fenced to exclude cattle during the breeding season. A flashboard riser control structure will be placed in a swale at the location shown on Attachment D in order to create a shallow pond conducive to toad breeding

success. To better understand the effects on the Houston toad, an experimental design for thinning of understory vegetation will be developed and implemented in this area. A prescribed burn plan will be written and implemented for this area in cooperation with Texas Forest Service and the Service. The Service will be allowed to review and comment on the experimental design and the prescribed burn plan prior to their implementation.

The Cooperator agrees to adhere to the following criteria for specific management activities:

- Cattle will be excluded continuously during the breeding season (January 1 through June 30 each year) from HTMAs 1, 3, 4, and 5. In addition, cattle shall be excluded continuously from areas that are undergoing native grass restoration until such time as the grasses are established.
- Understory brush will be removed from specified areas within the woodlands and forests through mechanical shearing, and/or chainsawing, depending on the circumstances at each location. The primary species to be controlled are eastern red cedar and yaupon. The suppression of wildfires has led to a dramatic increase in the densities of both of these species and a resulting decline in the cover and diversity of the herbaceous layer. This in turn may lead to a decline in insect prey diversity and abundance. Understory cover will be reduced in accordance with an experimental design that will include two, and possibly three levels of reduction. Thinning activities will be performed outside of the breeding season (July – December). The goal of these efforts is to better understand the impacts of understory thinning intended to improve the suitability of the habitat for the Houston toad. Objectives of this research include thinning in a manner that mimics the results of a natural wildfire, enhancing the ability of existing native herbaceous vegetation to flourish, reducing the occurrence and persistence of exotic grasses, and providing conditions that will facilitate the planting and survival of native bunchgrasses.
- Native, locally adapted genotype bunchgrasses (as available) will be planted within the specified toad management areas to enhance the herbaceous habitat conditions. The expected results of these enhancements are an increase in native insect prey abundance and diversity, a reduction in density of fire ant mounds, and improved conditions for toad movement. The goal is to increase native bunchgrass cover to 80 percent in the relatively open areas (currently dominated by bermudagrass) designated in HTMA1 and HTMA3.
- The restored or enhanced habitat created by these measures will be subjected to prescribed “maintenance” burns approximately 5-7 years following the initial restoration work and contingent on the results of prescribed fire planning in cooperation with Texas Forest Service and the Service. Burns will be limited to the period July through December in order to minimize the possibility of direct toad mortality. The purpose of the burns is to maintain the open understory and enhance the quality and cover of the native herbaceous vegetation, thereby increasing native insect prey abundance and diversity and improving conditions for toad movement.

- Fire ant mounds will be controlled through the application of Justice™ (a slow acting biorational toxin derived through the fermentation of a soil dwelling bacteria) to individual mounds once in the summer after the end of the breeding season (with one follow-up application) and (if needed) once in the fall (with one follow-up application). This management practice is expected to have direct positive impacts on the Houston toad by reducing toad and toadlet mortality and indirect positive impacts by increasing native insect abundance and diversity.

The impacts of the activities described above will be monitored by documenting and quantifying the impacts on herbaceous and woody vegetation using plots and photo points, fire ant mound density using direct counts, and the overall impact on local subpopulations of the Houston toad through seasonal monitoring of population abundance and demographics.

Net Conservation Benefit

These conservation measures are expected to result in the following net conservation benefits to the Houston toad:

- Creation and enhancement of Houston toad breeding habitat through pond creation and improvements and exclusion of cattle.
- Enhancement of Houston toad foraging and hibernating habitat through understory thinning, native grass planting, and exclusion of cattle.
- Collection of research data related to the impacts of the enhancements on the Houston toad.
- Expansion and enhancement of potential breeding, foraging, and hibernating habitats for the population of Houston Toads currently on the adjacent Bastrop State Park.
- Serve as a demonstration site to others within the Houston toad's range.

The Cooperator believes that the conservation measures, as described in this Agreement, will provide the net conservation benefits listed above for the Houston toad. The Cooperator also believes that the duration of the Agreement and associated Permit are sufficient to achieve these conservation benefits.

4.2 Incidental Take

During the term of the agreement, a minor amount of incidental take of individual toads could occur as a result of the implementation of some of the conservation measures, such as understory thinning and prescribed fire. In addition, as a result of the creation and enhancement of habitat, it may be reasonably foreseeable that there will be an increased risk of death or injury to individual toads as a result of normal ranching practices.

Pending Permit issuance, the Cooperator is authorized to carry out the conservation measures described in this Agreement, even if the result is take of the covered species anywhere within the enrolled property.

Implementation of the conservation measures described in this Agreement is likely to result in improvements to the habitat for the covered species and an increase in its population size beyond the baseline on the property. At the end of the Agreement, the Cooperator may return to baseline by ceasing the management measures and/or undoing the improvements to the habitat. Specifically, the Cooperator may:

- Remove some or all of the fencing;
- Return to a grazing level of approximately 30 to 40 cows and 1 to 2 bulls;
- Allow year-round cattle access to the toad management areas;
- Remove the flashboard riser control device thereby returning the ephemeral pond created by this device to baseline conditions;
- Restore bermudagrass to areas where it was replaced by native grasses;
- Discontinue treatment of fire ant mounds;
- Discontinue planning and implementation of prescribed fire; and
- Discontinue maintenance of an open understory and native bunchgrass component.

The Cooperator shall not undo the habitat improvements until the Cooperator has given the Service a 60-day notice and an opportunity to relocate any affected individual Houston toads.

If the Cooperator chooses to maintain the enhanced habitat and forgo any take of above-baseline individuals, populations, habitats, or enhancements and terminates the permit or allows the permit to expire, the Cooperator acknowledges that he may accrue additional take liability under the Act.

4.3 Monitoring Provisions

The Cooperator, in collaboration with Environmental Defense, will monitor implementation of the Agreement annually, as specified in the terms and conditions of the associated Permit. At a minimum, monitoring will consist of a description and discussion of the implemented enhancement activities and the results of annual surveys of vegetation within the HTMAs, water quality within the ponds, and the presence or absence of Houston toads during the breeding season. More intensive surveys of Houston toad abundance and fecundity are planned for the first three years of this project that will be funded in part by a Section 6 grant. The Cooperator agrees to provide access to Environmental Defense, or a mutually agreeable representative, for the purposes of monitoring implementation of the Agreement.

4.4 Reporting Provisions

The Cooperator, in collaboration with Environmental Defense, will provide an annual report (due by December 31) to the U.S. Fish and Wildlife Service, 10711 Burnet Road, Suite 200, Austin, Texas 78758 and to the U.S. Fish and Wildlife Service, Ecological Services, P.O. Box 1306, Room 4102, Albuquerque, New Mexico 87103.

4.5 Funding Provisions

The Cooperator has entered into an agreement with Environmental Defense under which Environmental Defense has agreed to pay for presence/absence surveys of the Houston toad on the Ranch (completed for the 2002 breeding season and underway for the 2003 breeding season) and provide up to $4,000 of funding for implementation of the conservation measures described in this Agreement. Also, the Cooperator has been awarded $2,000 from the National Wildlife Federation through the County of Bastrop, Texas, to implement on-the-ground enhancements. In addition, the Cooperator, with assistance from Environmental Defense, will seek funding from the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program, the Texas Parks and Wildlife Department's Landowner Incentive Program, and other potential and applicable sources to implement the conservation measures.

The Cooperator is committed to implementing the provisions of the Agreement and any associated Permit. If the Parties find that a lack of funding is interfering with implementation of this Agreement, they agree to meet to seek a solution to any funding insufficiencies. If no solution to the insufficiencies can be determined, the Parties agree that amendment, modification, or termination of the Agreement may be necessary.

Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the Service will not be required under this Agreement to expend any Federal agency's appropriated funds unless and until an authorized agency official affirmatively acts to commit to such expenditures as evidenced in writing.

4.6 Neighboring Landowners

Other landowners are not Parties to this Agreement or any Permit associated with this Agreement. If the Cooperator's voluntary conservation measures result in the Houston toad or any other federally-listed species occupying adjacent properties, the Service will use the maximum flexibility allowed under the Act to address neighboring properties under the Agreement and any associated Permit. However, the implications to neighboring landowners and the potential need to actively address these implications will be determined on a case-by-case basis. Environmental Defense and the Cooperator will work together to notify neighboring landowners. If the owner of land adjoining any parcel to which this Agreement and an associated permit applies, requests the opportunity to receive safe harbor assurances, Environmental Defense and/or the Cooperator will refer him or her to the Service for a determination of the baseline applicable to the neighboring property and for negotiation of a separate agreement that meets the requirements of Part 14 of the Service's Safe Harbor Policy between the neighboring landowner and the Service.

4.7 Emergency Situations

Emergency situations, such as hurricanes, floods, droughts, insect infestations, or epidemic disease, may require management actions not specified in this Agreement. In these situations, the Parties acknowledge that it may be impossible to provide the 60-day

notice required by the Agreement prior to initiation of activities that could result in take of the Houston toad. However, the Cooperator will notify the Service within 10 days of discovering such a situation, and will make reasonable accommodations to the Service to survey for and/or relocate affected Houston toads prior to the actions. The Parties acknowledge that survey and translocation may be precluded by certain urgent or emergency situations.

5.0 RESPONSIBILITIES OF THE PARTIES

5.1 Cooperator Responsibilities

The Cooperator will make a good faith effort and use due diligence to implement the management actions and other provisions of this Agreement and to adhere to the terms and conditions of the associated Permit. The Cooperator will work in partnership with Environmental Defense to provide sufficient funding and other resources necessary to implement the conservation measures described in this Agreement.

The Cooperator will allow access to the enrolled property by the Service or other agreed-upon party and upon reasonable notice, for any activities related to this Agreement for which the party is responsible, including, but not limited to monitoring and capture and relocation of the covered species.

The Cooperator will report any dead, injured, or ill specimens of the covered species observed on the enrolled property to the Service.

The Cooperator, in collaboration with Environmental Defense, will provide the Service with an annual report, due on December 31. The report will include information on progress made in implementing the specified management activities, results of monitoring activities, and any take of the covered species that has occurred.

5.2 Service Responsibilities

By signature of this Agreement, the Cooperator agrees to provide the Service with any opportunity to rescue individuals of the covered species before any authorized take occurs, thereby minimizing the authorized take. Notification that take will occur must be provided to the Service, in writing, at least 60 days in advance of the action.

Upon execution of the Agreement and satisfaction of all other applicable legal requirements, the Service agrees to process the application for an enhancement of survival permit by the Cooperator in accordance with ESA section 10(a)(1)(A), which authorizes take of the covered species as a result of lawful activities on the enrolled property in accordance with the terms and conditions of any such permit.
The Service agrees to provide technical assistance and information on federal funding programs to the Cooperator to assist with implementation of the Agreement.

5.3 Shared Responsibilities of the Parties

The Parties will ensure that the Agreement and the actions covered in the Agreement are consistent with applicable Federal and State laws and regulations.

The Parties will ensure that the terms of the Agreement will not be in conflict with any ongoing conservation or recovery programs for the covered species.

Nothing in this Agreement will be construed to limit or constrain any Party or any other entity from taking additional actions at its own expense to protect or conserve the covered species.

Nothing in this Agreement shall limit the ability of Federal and State conservation authorities to perform their lawful duties, and conduct investigations as authorized by statute and by court guidance and direction.

Each Party shall have all remedies otherwise available to enforce the terms of the Agreement and the Permit, except that no Party shall be liable in damages for any breech of this Agreement, any performance or failure to perform an obligation under this Agreement, or any other cause of action arising from this Agreement.

The Parties agree to work together in good faith to resolve any disputes, using dispute resolution procedures agreed upon by all the Parties.

6.0 LANDOWNER ASSURANCES

Through this Agreement, the Service provides the Cooperator assurances that if additional conservation and mitigation measures are deemed necessary, the Service may require additional measures of the Cooperator, but only if such measures are limited to modifications within the toad management areas for the affected species and maintain the original terms of the Agreement to the maximum extent possible. Additional conservation and mitigation measures will not involve the commitment of additional land, water or financial compensation, or additional restrictions on the use of land, water, or other natural resources otherwise available for use under the original terms of the Agreement without the consent of the Cooperator.

These assurances allow the Cooperator to alter or modify the enrolled property, even if such alteration or modification results in the incidental take of the Houston toad to such an extent that the take returns the Houston toad habitat to the original baseline conditions. Such assurances may apply to the entire enrolled property or to portions of the enrolled property as designated or otherwise specified in this Agreement. These assurances depend on the property owner complying with the obligations in this Agreement and in the associated Permit. Further, the assurances apply only to this Agreement, only if the Agreement is being properly implemented, and only with respect to the species covered by the Agreement and associated Permit.

7.0 AGREEMENT MANAGEMENT

7.1 Termination of the Agreement

As provided for in Part 12 of the Service's Safe Harbor Policy (64 FR 32717), the Cooperator may terminate the Agreement for circumstances beyond the Cooperator's control. In such circumstances, the Cooperator may return the enrolled property to baseline conditions, even if the management activities identified in Part 4 have not been fully implemented, provided that the Cooperator gives the Service the notification required, by Part 4.2 above, prior to carrying out any activity likely to result in the taking of the covered species. If the Cooperator terminates the Agreement for any other reason, the permit, referenced in Part 5.2 above, shall immediately cease to be in effect.

7.2 Modification of the Agreement

Either party may propose amendments to this Agreement, as provided in 50 CFR 13.23, by providing written notice to, and obtaining the written concurrence of, the other Party. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The Parties will use their best efforts to respond to proposed modifications within 30 days of receipt of such notice. Proposed modification will become effective upon the other Parties' written concurrence.

7.3 Agreement Renewal

The Agreement can be renewed with or without modification with the approval of all Parties. The Cooperator may request that this Agreement and its associated Permit be renewed, by notifying the Service at least 90 days prior to permit expiration. The Service may then evaluate whether or not to renew the Agreement and its associated Permit.

7.4 Permit Suspension or Revocation

The Service may suspend or revoke the permit referred to in Part 5.2 above for cause in accordance with the laws and regulations in force at the time of such suspension or revocation (50 CFR 13.28(a)). The Service also, as a last resort, may revoke the permit if continuation of permitted activities would likely result in jeopardy to the covered species (50 CFR 13.28(a)(5)). In such circumstances, the Service will exercise all possible measures to avoid revoking the permit.

7.5 Baseline Adjustment

The baseline conditions set forth in Part 3 above may be adjusted, by mutual agreement of the Parties, if during the term of the Agreement and for reasons beyond the control of the Cooperator, the utilization of the enrolled property by the covered species or the quantity or quality of habitat suitable for or occupied by the covered species is reduced from what it was as of January 1, 2002.

7.6 Transfer of Agreement Benefits

By signature of this Agreement, the Cooperator agrees to notify the Service in writing and at least 30 days in advance if ownership of all or a portion of the enrolled property is to be transferred to another owner. If the Cooperator transfers full or partial ownership of the enrolled property, the Service will regard the new landowner as having the same rights and obligations as the Cooperator under this Agreement, if the new property owner

agrees to become a party to the original Agreement. Actions taken by the new landowner that result in the take of species covered by the Agreement would be authorized if the new landowner maintains the terms and conditions of the original Agreement and its associated Permit. If the new landowner does not become a Party to the Agreement, the new landowner would neither incur responsibilities under the Agreement nor receive any assurances relative to the Act's Section 9 prohibitions that might result from the new landowner's actions.

After any notification of change in ownership of the enrolled property, the Service will contact the new or prospective landowner to explain the original Agreement and to determine whether the new landowner will become a Party to the original Agreement or enter a new Safe Harbor Agreement. When a new landowner becomes a Party to the original Agreement, the Service will honor the terms and conditions of the original Agreement and Permit.

8.0 OTHER MEASURES

8.1 Availability of Funds

Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the Service will not be required under this Agreement to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

8.2 Relationship to Other Agreements

The Cooperator, in collaboration with Environmental Defense, intends to seek additional partnership opportunities that will facilitate the implementation of the habitat enhancement activities described herein. Any agreements that are signed as a result of these partnerships shall fully support both the content and intent of the provisions of this Agreement.

8.3 No Third-Party Beneficiaries

This Agreement does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries or damages pursuant to the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed under existing law.

8.4 Other Listed Species, Candidate Species, and Species of Concern

Although the Service regards it as unlikely, the possibility exists that other listed, proposed, or candidate species, or species of concern may occur in the future on the enrolled property as a direct result of the management actions specified in Part 4 above. If that occurs and the Cooperator so requests, the Parties may agree to amend the Agreement and associated permit to cover additional species and to establish appropriate baseline conditions for such other species.

9.0 SIGNATURES

By our signatures below, each Party agrees to abide by and uphold the provisions of this Agreement and any conditions of the Permit associated with this Agreement.

Robert K. Long, Sr. 2/4/04
Robert K. Long, Sr. Date
Cooperator

H. Dale Hall
H. Dale Hall
Regional Director, Southwest Region
U.S. Fish and Wildlife Service

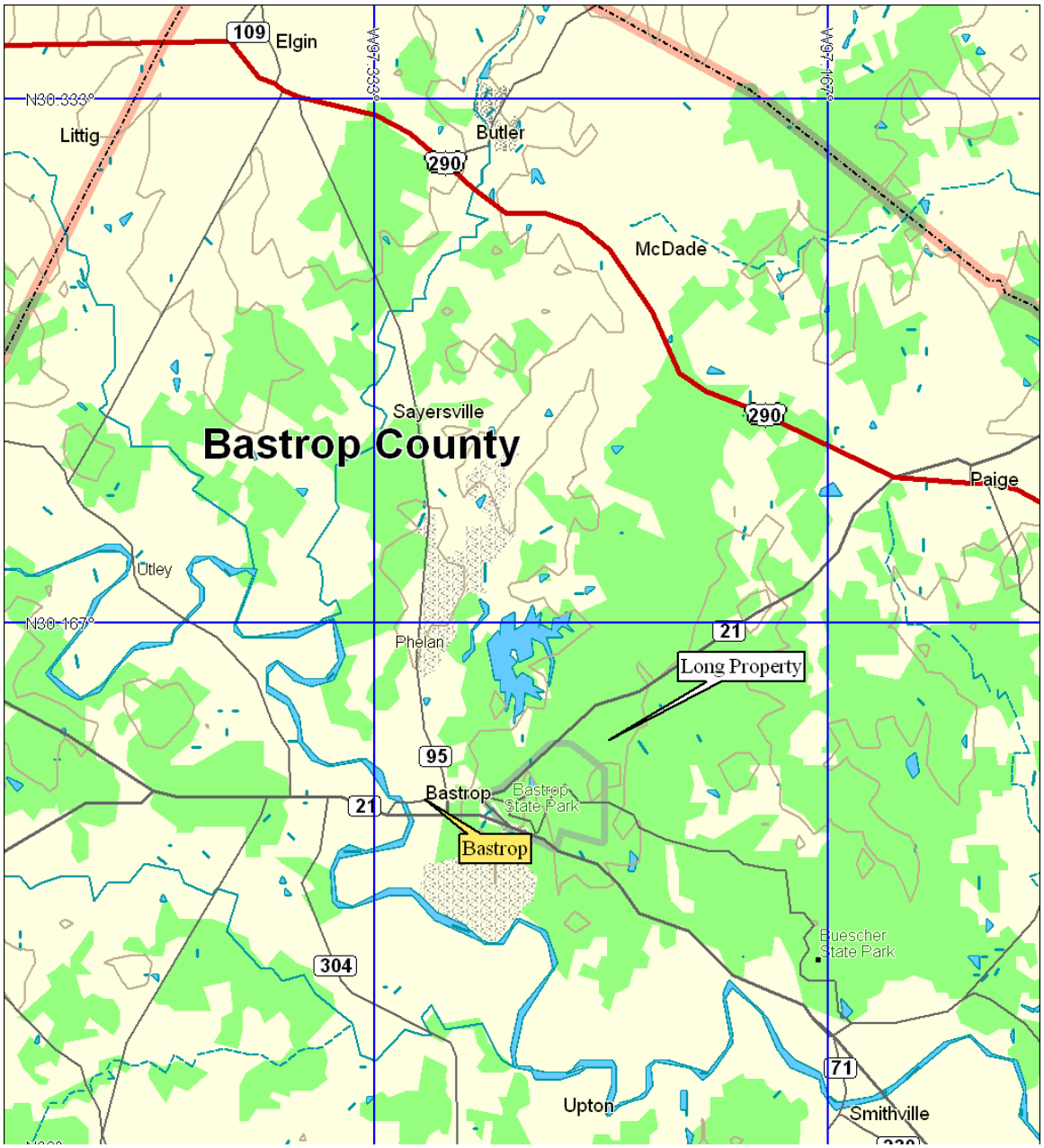
Carol S. Long 2/4/04
Carol S. Long Date

2/24/04
Date

Robert K. Long, Jr. 2/4/04
Robert K. Long, Jr. Date

Rebekah L. Herrick 2/07/04
Rebekah L. Herrick Date

2/16/04
Joshua B. Long Date



Approximate location of Long Property in Bastrop County

Attachment A